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Abstract

SAFETY PROBLEMS OF ATOMIC SHIPS

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The paper presents the calculations and theoretical conclusions which indicate that the basic recommendations with respect to atomic-powered ships contained in the International Convention for the Safety of Life at Sea 1960 can be successfully complied on the icebreaker LENIN. Specific data obtained in the course of the practical operation of the atomic plant of the icebreaker are shown. They confirm the practicability of the theoretical calculations.

The paper discusses the possible radiation hazards resulting from the collision of an atomic-powered ship with other ships. It presents the calculations of the possible outlet of radioactive fission products from the primary circuit in the case of moderate leakages or in the case of such situations as bursting of the pipe line in the primary circuit, when the reactor core will be left without water. Evaluation is made of the amount of core destruction that can be caused by the afterheat release in the uranium.

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